

Michelle Wagler
Harlan Cabinet, Inc.
P.O. Box 307
Harlan, Indiana 46743

Re: Source Specific Operation Status
S 003-12349-00214

Dear Ms. Wagler:

Your application for Source Specific Operation Status, received on June 8, 2000 has been reviewed. Based on the data submitted and the provisions in 326 IAC 2, it has been determined that your emission source, stationary surface coating operation located at 12707 Spencerville Road, Harlan, Indiana, 46743, has met the criteria required to obtain a Source Specific Operating Agreement. All terms and conditions in such registrations and permits are no longer in effect.

Pursuant to IC 4-21.5-3-5(a) and (b), approval of this Source Specific Operating Agreement shall not be effective until fifteen (15) days from the date of this letter.

The facilities and processes of this source are hereby granted the Source Specific Operating Agreement provided that the following requirements of 326 IAC 2-9 are satisfied:

Section A: Surface Coating [326 IAC 2-9-2.5]

All surface coating or graphic arts operations at the source shall comply with either of the following:

- (a) All surface coating or graphic arts operations at the source shall use two thousand (2,000) gallons or less of solvent containing material for every twelve (12) month period and the following records shall be kept at the source:
 - (1) Purchase orders or invoices of solvent containing materials.
 - (2) An annual summation on a calendar year basis of purchase orders or invoices for all solvent containing materials, or
- (b) The total amount of VOC and HAP delivered to all surface coating or graphic arts operations at the sources shall not exceed the following:
 - (1) The total amount of VOC shall not exceed two (2) tons per month.
 - (2) The total amount of a single HAP shall not exceed eight hundred thirty-three (833) pounds per month.
 - (3) The total amount of any combination of HAP shall not exceed one (1) ton per month.
 - (4) The source shall keep the following records of the surface coating operation:
 - (A) the number of gallons of each solvent containing material used,

- (B) the VOC and HAP content (pounds per gallon as supplied) of each solvent containing material used,
- (C) material safety data sheets (MSDS) for all VOC and HAP containing material used,
- (D) a monthly summation of VOC and HAP usage, and
- (E) purchase orders and invoices for each solvent containing material used.

These records shall be kept for a minimum period of five (5) years, and made available upon request of the Office of Air Management (OAM).

1. Particulate matter emissions shall be controlled by a dry filter system or an equivalent control device. The source shall operate the particulate control device at all times the graphic arts operation is in operation in accordance with the manufacturer's specifications. A source shall be considered in compliance with this requirement provided the overspray is not visibly detectable at the exhaust or accumulated on the rooftops or on the ground.
2. Include with the annual notice required in Condition 1 of the General Requirements Section, an inventory listing of the monthly volatile organic compound (VOC) and hazardous air pollutant (HAP) totals, and the total VOC and HAP emissions for the previous twelve (12) months.

Section B: General Requirements: [326 IAC 2-9-1]

1. The source shall provide an annual notice to the commissioner, stating that the source is in operation, and certifying that its operations are in compliance with the requirements of this Source Specific Operating Agreement. The above annual notice shall be submitted to:

**Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015**

no later than January 30 of each year, with the annual notice being submitted in the format attached.

2. Any exceedance of any requirement contained in this operating agreement shall be reported, in writing, within one (1) week of its occurrence. Said report shall include information on the actions taken to correct the exceedance, including measures to reduce emissions, in order to comply with the established limits. If an exceedance is the result of a malfunction, then the provisions of 326 IAC 1-6 apply.
3. Pursuant to 326 IAC 2-9-1(i), the owner or operator is hereby notified that this operating agreement does not relieve the permittee of the responsibility to comply with the provisions of any applicable federal, state, or local rules, or any New Source Performance Standards (NSPS), 40 CFR Part 60, or National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Parts 61 and 63.

Any change or modification which will alter operations in such a way that it will no longer comply with the applicable restrictions and conditions of this operating agreement, must obtain the appropriate approval from the Office of Air Management (OAM) under 326 IAC 2-5.1, 326 IAC 2-5.5, 326 IAC 2-6.1, 326 IAC 2-2, 326 IAC 2-3, 326 IAC 2-7, and 326 IAC 2-8, before such change may occur.

Sincerely,

Paul Dubenetzky, Chief
Permit Branch
Office of Air Management

ERG/RB

cc: File - Allen County
Allen County Health Department
Air Compliance Section - Jennifer Dorn
Permit Tracking - Janet Mobley
Technical Support & Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Source Specific Operating Agreement Annual Notification
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This form should be used to comply with the notification requirements under 326 IAC 2-9.

Company Name:	Harlan Cabinets
Address:	12707 Spencerville Road
City:	Harlan, Indiana 46743
Contact Person:	Michelle Wagler
Phone #:	(219) 657-5154
SSOA #:	003-12349-00214

I hereby certify that Harlan Cabinets, Inc., is still in operation and is in compliance with the requirements of Source Specific Operating Agreement (SSOA) S 003-12349-00214

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Source Specific Operating Agreement (Surface Coating)

Source Background and Description

Source Name: Harlan Cabinets, Inc.
Source Location: 12707 Spencerville, Road, Harlan, Indiana 46743
County: Allen
SIC Code: 2434
Operation Permit No.: S 003-12349-00214
Permit Reviewer: ERG/RB

The Office of Air Management (OAM) has reviewed an application from Harlan Cabinets, Inc., relating to the construction and operation of a surface coating unit.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) Woodworking Operations with an average throughput of 900 lbs/hr which includes: Saw Rough Mill (09A) preparation, shaping and sanding operations (09B), and Product Assembly (09C) emission from these operations are vented to a baghouse and emitted into the atmosphere through stack SV-09
- (b) One (1) curing oven operation at 0.8 MMBtu/hr, fueled by natural gas emissions from the curing oven are vented to the atmosphere through vents 6, 7, and 8.
- (c) One (1) wiping station (EU1) with a throughput of 18 units per hour controlled with a dry filter venting to the atmosphere through vent SV-1.
- (d) Two (2) spray booth (EU2 and EU5) applying enamel and catalyst with a throughput of 6 units per hour controlled with a dry filter, venting to the atmosphere through vent SV2 and SV5, respectively.
- (e) One (1) spray booth (EU4) applying topcoat and catalyst with a throughput of 24 units per hour, controlled with a dry filter venting to the atmosphere through vent SV4.
- (f) One (1) spray booth (EU3) apply in sealer with a throughput of 24 units per hour, controlled with a dry filter venting to the atmosphere through vent SV03a and SV03b.
- (g) Two (2) natural fired space heaters with a rating of 0.1 MMBtu/hr (each).
- (h) One (1) natural gas air makeup unit with a rating of 1.25 MMBtu/hr venting to the atmosphere.

- (l) One (1) natural gas water heater with a rating of 0.034 MMBtu/hr venting to the atmosphere.
- (j) One (1) natural gas furnace with a rating of 0.095 MMBtu/hr venting to the atmosphere.
- (k) One (1) natural gas furnace with a rating of 0.076 MMBtu/hr venting to the atmosphere.
- (l) One (1) space heater with a rating of 0.075 MMBtu/hr venting to the atmosphere.
- (m) One (1) natural gas space heater with a rating of 0.125 MMBtu/hr venting to the atmosphere.
- (n) One (1) radiant heater with a rating of 0.052 MMBtu/hr venting to the atmosphere.
- (o) One (1) natural gas furnace with a rating of 0.40 MMBtu/hr venting to the atmosphere.
- (p) Three (3) natural gas space heaters with a rating of 0.3 MMBtu/hr (each) venting to the atmosphere.

Note: Sources (g) - (p) do not have a permit but are eligible for exemption.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

- (a) One (1) wiping station (EU10) with a throughput of 18 units per hour controlled with a dry filter, venting to the atmosphere through stack SV10.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) CP 003-4029-00214 issued on July 13, 1995.
- (b) S 003-6556-00214 issued January 27, 1996.

Note: The source was constructed in 1962. Permit 003-6556-00214 is an SSOA for the woodworking operation. The source could have up to three additional SSOAs. This TSD document is for a surface coating SSOA (003-12349-00214). An additional SSOA (003-12856-00214) for combustion sources is concurrently being drafted.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
SV01	Surface Coating	25	2.8	15,100	ambient
SV02	Surface Coating	25	2.8	15,100	ambient
SV03A	Surface Coating	25	2.8	15,100	ambient
SV03B	Surface Coating	25	2.8	15,100	ambient
SV04	Surface Coating	25	2.8	15,100	ambient
SV05	Surface Coating	20	3	15,000	ambient
SV06	Curing Oven	18.5	1.5	1,700	160NF
SV07	Curing Oven	18.5	1.5	1,700	160NF
SV08	Curing Oven	18.5	1.5	1,700	160NF

SV09	Woodworking	16	3.5	41,200	ambient
SV10	Surface Coating	2	1.5	3,500	ambient

Enforcement Issue

- (a) IDEM is aware that some of the equipment has been constructed and/or operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled Unpermitted Emission Units and Pollution Control Equipment.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the SSOA be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on June 8, 2000 with additional information received on August 2, 2000 and October 12, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, 2 pages).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	199.49
PM-10	23.22
SO ₂	0.01
VOC	37.99
CO	1.47
NO _x	1.76

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC is equal to or greater than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

County Attainment Status

The source is located in Allen County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Allen County has been classified as attainment for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Part 70 Permit Determination

This is the first air approval issued to this source.

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit S 003-12856-00214, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-9-2.5 (Surface Coating)

Industrial Commercial Surface Coating Operation not subject to 326 IAC 8-2; Graphic Arts not subject to 326 IAC 8-5-5

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Include with the annual notice required in Condition 1 of the General Requirements Section, an inventory listing of the monthly volatile organic compound (VOC) and hazardous air pollutant (HAP) totals, and the total VOC and HAP emissions for the previous twelve (12) months.

Conclusion

The SSOA of this surface coating operations shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit S 003-12856-00214.

Appendix A: Emissions Calculations**Natural Gas Combustion*****MM BTU/HR <100**

Company Name: Harlan Cabinets, Inc.
Address City IN Zip: 12707 Spencerville Road
MSOP: 003-12349-00214
Plt ID: 003-00214
Reviewer: ERG/TK
Date: 08/26/2000

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

4.007

35.101

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	7.60	7.60	0.60	100.00 **see below	5.50	84.00
Potential Emission in tons/yr	0.13	0.13	0.01	1.76	0.10	1.47

*Natural Gas Combustion at Harlan Cabinets, Inc. includes: 2 space heaters at 0.1 MMBtu/hr each; 1 air makeup unit at 1.25 MMBtu/hr ; 1 water heater at 0.034 MMBtu/hr; 1 furnace at 0.095 MMBtu/hr; 1 furnace at 0.076 MMBtu/hr; 1 space heater at 0.075 MMBtu/hr; 1 space heater at 0.125 MMBtu/hr; 1 radiant heater at 0.052 MMBtu/hr; 1 furnace at 0.4 MMBtu/hr; 3 space heaters at 0.3 MMBtu/hr each; and 1 curing oven at 0.8 MMBtu/hr

**PM and PM10 emission factors are combined filterable and condensable PM and PM10, respectively.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 7/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion***

Page 2 of 6 TSD App A

MM BTU/HR <100

Company Name: Harlan Cabinets, Inc.
Address City IN Zip: 12707 Spencerville Road
MSOP: 003-12349-00214
Plt ID: 003-00214
Reviewer: ERG/TK
Date: 08/26/2000

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.686E-05	2.106E-05	1.316E-03	3.159E-02	5.967E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	8.775E-06	1.931E-05	2.457E-05	6.669E-06	3.686E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

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Appendix A: Emissions Calculations
VOC and Particulate from Surface Coating Operations

Company Name: Harlan Cabinets, Inc.
Address City IN Zip: 12707 Spencerville Road
MSOP: 003-12349-00214
Plt ID: 003-00214
Reviewer: ERG/TK
Date: 08/26/2000

Emission Unit	Material	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating	Potential VOC (lb/hr)	Potential VOC (lb/day)	Potential VOC (tons/yr)	PM Potential (ton/yr)	Transfer Efficiency
EU1	Wiping Stain, Autumn Haze	6.63	90.30%	0.00%	90.30%	0.016	18	5.99	1.72	41.38	7.55	0.57	30%
EU10	Wiping Stain, Autumn Haze	6.63	90.30%	0.00%	90.30%	0.016	18	5.99	1.72	41.38	7.55	0.57	30%
EU2	Enamel and Catalyst 2750 in 9:1 mixing ratio	10.45	30.04%	0.00%	30.04%	0.016	6	3.14	0.30	7.23	1.32	2.15	30%
EU5	Enamel and Catalyst 2750 in 9:1 mixing ratio	10.45	30.04%	0.00%	30.04%	0.016	6	3.14	0.30	7.23	1.32	2.15	30%
EU4	30 Sheen Resistovar Topcoat and 1048 Catalyst in 43:1 mixing ratio	7.87	62.07%	0.00%	62.07%	0.016	24	4.88	1.88	45.02	8.22	3.51	30%
EU3	93311-4523 Low HAPs Sealer and 1048 Catalyst in 54:1 mixing ratio	7.29	69.31%	0.00%	69.31%	0.016	24	5.05	1.94	46.57	8.50	2.63	30%
State Potential Emissions		Add worst case coating to all solvents							1.94	188.81	34.46	3.51	

Material	Density (lb/gal)	Max. Gal of Material (gal/hr)	Weight % of VOC as Toluene	VOC Emissions (lb/hr)	VOC Emissions (ton/yr)
S-1030 Thinner	7.04	38.40%	29%	0.784	3.43

	VOC Emissions (tons/yr)	PM Emissions (tons/yr)
Total Emissions, all uses	37.89	3.51

Total Solvent Emissions

3.43

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Sum of Coating Emissions + Sum of all Solvent Emissions

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Appendix A: Emissions Calculations
VOC and Particulate from Surface Coating Operations

Company Name: Harlan Cabinets, Inc.
Address City IN Zip: 12707 Spencerville Road
MSOP: 003-12349-00214
Plt ID: 003-00214
Reviewer: ERG/TK
Date: 08/26/2000

Emission Unit	Material	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating	Potential VOC (lb/hr)	Potential VOC (lb/day)	Potential VOC (tons/yr)	PM Potential (ton/yr)	Transfer Efficiency
EU1	Wiping Stain, Autumn Haze	6.63	90.30%	0.00%	90.30%	0.016	18	5.99	1.72	41.38	7.55	0.57	30%
EU10	Wiping Stain, Autumn Haze	6.63	90.30%	0.00%	90.30%	0.016	18	5.99	1.72	41.38	7.55	0.57	30%
EU2	Enamel and Catalyst 2750 in 9:1 mixing ratio	10.45	30.04%	0.00%	30.04%	0.016	6	3.14	0.30	7.23	1.32	2.15	30%
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	VOC Emissions (tons/yr)	PM Emissions (tons/yr)
Total Emissions, all uses	37.89	3.51

Total Solvent Emissions

3.43

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Sum of Coating Emissions + Sum of all Solvent Emissions

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Appendix A: Emissions Calculations
VOC and Particulate from Surface Coating Operations

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Address City IN Zip: 12707 Spencerville Road
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EU2	Enamel and Catalyst 2750 in 9:1 mixing ratio	10.45	30.04%	0.00%	30.04%	0.016	6	3.14	0.30	7.23	1.32	2.15	30%
EU5	Enamel and Catalyst 2750 in 9:1 mixing ratio	10.45	30.04%	0.00%	30.04%	0.016	6	3.14	0.30	7.23	1.32	2.15	30%
EU4	30 Sheen Resistovar Topcoat and 1048 Catalyst in 43:1 mixing ratio	7.87	62.07%	0.00%	62.07%	0.016	24	4.88	1.88	45.02	8.22	3.51	30%
EU3	93311-4523 Low HAPs Sealer and 1048 Catalyst in 54:1 mixing ratio	7.29	69.31%	0.00%	69.31%	0.016	24	5.05	1.94	46.57	8.50	2.63	30%
State Potential Emissions		Add worst case coating to all solvents							1.94	188.81	34.46	3.51	

Material	Density (lb/gal)	Max. Gal of Material (gal/hr)	Weight % of VOC as Toluene	VOC Emissions (lb/hr)	VOC Emissions (ton/yr)
S-1030 Thinner	7.04	38.40%	29%	0.784	3.43

	VOC Emissions (tons/yr)	PM Emissions (tons/yr)
Total Emissions, all uses	37.89	3.51

Total Solvent Emissions

3.43

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Sum of Coating Emissions + Sum of all Solvent Emissions

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Appendix A: Emissions Calculations
VOC and Particulate from Surface Coating Operations

Company Name: Harlan Cabinets, Inc.
Address City IN Zip: 12707 Spencerville Road
MSOP: 003-12349-00214
Plt ID: 003-00214
Reviewer: ERG/TK
Date: 08/26/2000

Emission Unit	Material	Density (lb/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating	Potential VOC (lb/hr)	Potential VOC (lb/day)	Potential VOC (tons/yr)	PM Potential (ton/yr)	Transfer Efficiency
EU1	Wiping Stain, Autumn Haze	6.63	90.30%	0.00%	90.30%	0.016	18	5.99	1.72	41.38	7.55	0.57	30%
EU10	Wiping Stain, Autumn Haze	6.63	90.30%	0.00%	90.30%	0.016	18	5.99	1.72	41.38	7.55	0.57	30%
EU2	Enamel and Catalyst 2750 in 9:1 mixing ratio	10.45	30.04%	0.00%	30.04%	0.016	6	3.14	0.30	7.23	1.32	2.15	30%
EU5	Enamel and Catalyst 2750 in 9:1 mixing ratio	10.45	30.04%	0.00%	30.04%	0.016	6	3.14	0.30	7.23	1.32	2.15	30%
EU4	30 Sheen Resistovar Topcoat and 1048 Catalyst in 43:1 mixing ratio	7.87	62.07%	0.00%	62.07%	0.016	24	4.88	1.88	45.02	8.22	3.51	30%
EU3	93311-4523 Low HAPs Sealer and 1048 Catalyst in 54:1 mixing ratio	7.29	69.31%	0.00%	69.31%	0.016	24	5.05	1.94	46.57	8.50	2.63	30%
State Potential Emissions		Add worst case coating to all solvents							1.94	188.81	34.46	3.51	

Material	Density (lb/gal)	Max. Gal of Material (gal/hr)	Weight % of VOC as Toluene	VOC Emissions (lb/hr)	VOC Emissions (ton/yr)
S-1030 Thinner	7.04	38.40%	29%	0.784	3.43

	VOC Emissions (tons/yr)	PM Emissions (tons/yr)
Total Emissions, all uses	37.89	3.51

Total Solvent Emissions

3.43

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Sum of Coating Emissions + Sum of all Solvent Emissions

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